



6712-01

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 1, 2, 20, 27 and 90

[WT Docket No. 17-200; FCC 19-18]

Commission Proposes to Reconfigure the 900 MHz Band to Facilitate Broadband Services.

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: In this document, the Federal Communications Commission (Commission) proposes and seeks comment on facilitating broadband deployment in the 896-901/935-940 MHz band (900 MHz band) currently configured for narrowband operations. Specifically, the Commission proposes to realign the band to create a paired 3/3 megahertz broadband segment, licensed on a geographic basis, while reserving two remaining segments for continued narrowband operations. The Commission proposes to authorize a market-driven voluntary exchange process that would allow existing licensees in the band to mutually agree to a plan for clearing of the broadband segment by relocating site-based incumbents to narrowband spectrum. The Commission also seeks comment on two other transition methods—an auction of overlay licenses and an incentive auction, options that might be needed to effectuate 900 MHz band realignment in certain markets. This proposed action is consistent with the Commission’s ongoing recent efforts to increase access to flexible-use spectrum.

DATES: Interested parties may file comments on or before **[INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]**, and reply comments on or before **[INSERT DATE 60 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: You may submit comments, identified by WT Docket No. 17-200, by any of the following methods:

- Federal Communications Commission’s Web Site: <http://apps.fcc.gov/ecfs/>. Follow the instructions for submitting comments.

- **Mail:** All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building. Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701. U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.
- **People with Disabilities:** Contact the FCC to request reasonable accommodations (accessible format documents, sign language interpreters, CART, etc.) by e-mail: FCC504@fcc.gov or phone: 202-418-0530 or TTY: 202-418-0432.

For detailed instructions for submitting comments and additional information on the rulemaking process, see the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Stana Kimball, Stanislava.Kimball@fcc.gov, of the Wireless Telecommunications Bureau, Mobility Division, (202) 418-1306.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Notice of Proposed Rulemaking (NPRM) in WT Docket No. 17-200, FCC 19-18, released on March 14, 2019. The complete text of the NPRM is available for viewing via the Commission's ECFS website by entering the docket number, WT Docket No. 17-200. The complete text of the NPRM is also available for public inspection and copying from 8:00 a.m. to 4:30 p.m. Eastern Time (ET) Monday through Thursday or from 8:00 a.m. to 11:30 a.m. ET on Fridays in the FCC Reference Information Center, 445 12th Street S.W., Room CY-B402, Washington, DC 20554, telephone 202-488-5300, fax 202-488-5563.

Alternative formats are available for people with disabilities (Braille, large print, electronic files, audio format), by sending an e-mail to FCC504@fcc.gov or calling the Consumer and Government Affairs Bureau at (202) 418-0530 (voice), (202) 418-0432 (TTY).

Comment and Reply Comment Filing Instructions

Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR 1.415 and 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS). See Electronic Filing of Documents in Rulemaking Proceedings, 63 FR 24121 (1998).

- **Electronic Filers:** Comments may be filed electronically using the Internet by accessing the ECFS: <http://apps.fcc.gov/ecfs/>.
- **Paper Filers:** Parties who choose to file by paper must file an original and one copy of each filing. Parties should only file in GN Docket No. 17-258. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.
 - All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.
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Ex Parte Presentations

The proceeding this NPRM initiates shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission’s ex parte rules (47 CFR 1.1200 et seq.). Persons making ex parte presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral ex parte presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the ex parte presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter’s written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during ex parte meetings are deemed to be written ex parte presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written ex parte presentations and memoranda summarizing oral ex parte presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission’s ex parte rules. We find that all ex parte presentations made by NTIA or Department of Defense representatives are exempt under our exemption for presentations by federal agencies sharing jurisdiction with the Commission (see 47 CFR 1.1204(a)(5)).

I. NOTICE OF PROPOSED RULEMAKING

1. The NPRM proposes to realign the 900 MHz band¹ to enable broadband deployment, and seeks comment on how to realign the band, how to conduct a transition, and the technical rules needed to make the realignment a reality. The NPRM proposes to create a 3/3 megahertz segment broadband segment and to reserve the remainder of the 900 MHz band for continued narrowband operations. The Commission believes this proposal furthers important goals of the Communications Act of 1934, as amended (Communications Act), including improving the efficiency of spectrum use, and seeks comment on this view.

A. Band Realignment to Create Broadband Licenses

2. The NPRM propose a 3/3 megahertz broadband segment. The Commission anticipates that paired three megahertz blocks would be most suitable to create a viable broadband service in this band, and that paired 1.5 and .5 megahertz blocks could provide enough spectrum for 900 MHz narrowband operations. Three megahertz blocks are supported by wireless technical standards such as Long Term Evolution (LTE), and they are also favored by commenters. The Commission's goal is to open the 900 MHz band for additional uses that will facilitate increased efficiency and encourage innovation, while continuing to accommodate narrowband incumbents. The NPRM seeks comment on this proposed approach, including its costs and benefits.

3. To provide additional flexibility for the deployment of broadband services in the 900 MHz band, the NPRM proposes to replace the Land Mobile Service allocation in the 900 MHz band with a Mobile Except Aeronautical Mobile Service allocation on a co-primary basis with the Fixed Service, consistent with the allocations in the 890-902 MHz and 928-942 MHz bands in Region 2 of the International Table of Frequency Allocations.

4. The NPRM proposes to designate 897.5-900.5 MHz/936.5-939.5 MHz as the broadband segment, leaving two separate narrowband segments: a 1.5/1.5 megahertz segment (896-897.5/935-936.5 MHz)

¹ The 900 MHz band consists of 399 narrowband (12.5 kilohertz) frequency pairs grouped into 10-channel blocks that alternate between Specialized Mobile Radio (SMR) blocks that are geographically licensed by Major Trading Area (MTA) and Business/ Industrial Land Transportation (B/ILT) blocks in which channels are assigned on a site-by-site basis.

below the broadband segment and a .5/.5 megahertz segment (900.5-901/939.5-940 MHz) above the broadband segment.² This arrangement provides 1.5 megahertz of separation between the broadband segment and the 894-896 MHz Air-Ground Radiotelephone Service/932-935 MHz fixed microwave systems spectrum, and 500 kilohertz of separation between the broadband segment and the 901-902/940-941 MHz Narrowband Personal Communications Service spectrum.

5. Under the Commission's proposal, in the markets that are transitioned to broadband use through one or more of the mechanisms described in the NPRM, the 896-897.5/935-936.5 MHz and 900.5-901/939.5-940 MHz bands would no longer have a distinction between B/ILT and SMR blocks, but instead they would be designated as the narrowband segment available for site-based operations. The NPRM seeks comment on the rule modifications that may be necessary to facilitate band realignment and the creation of separate narrowband and broadband segments. Specifically, how should the Commission grant access to the narrowband segment and determine eligibility for narrowband segment licenses? To what extent will the Commission's interference protection criteria need to be modified to account for the existence of incumbent users and new licensed operations in the narrowband segment? The Commission also seeks comment on whether any necessary rule changes may vary depending on the specific transition mechanisms that the Commission may implement.

6. The NPRM further seeks comment on redesignating the entire band for broadband operation. It seeks specific comment on whether the Commission should take any action to facilitate 5/5 megahertz broadband operation on a nationwide basis or only in particular areas, such as where a single licensee controls all or almost all of the band or where there are very few narrowband users and little demand as demonstrated by lack of licensing activity. What additional rule changes, if any, would we need to make to effectuate such a proposal? The Commission asks commenters to also discuss and quantify the costs

² That is, we propose that the broadband segment be composed of the existing channels with center frequencies from 897.5125/936.5125 MHz (channel 121) to 900.5/939.5 MHz (channel 360). Channels 1-120 and 361-399 would continue to be designated for narrowband operations.

and benefits of this or any other alternative approaches, such as a 1.4/1.4 megahertz broadband channel coupled with larger protection bands between broadband and narrowband operations.

7. Consistent with the Commission's approach in several other bands used to provide fixed and mobile services, the NPRM proposes to license the broadband segment on a geographic area basis and seeks comment on the appropriate geographic licensing area for the broadband segment. Due to wide variations in levels of incumbent use of 900 MHz band across geographic areas, the Commission seeks comment on issuing broadband licenses on a county-by-county basis and asks whether to base such a county licensing scheme on 2017 county boundaries, the most recent county boundaries currently available through the Census Bureau, as used in the 3.5 GHz band. As an alternative, the Commission seeks comment on issuing broadband licenses over a larger geography.

8. The NPRM asks commenters to address the most suitable license area for 900 MHz band broadband licenses, and explain the costs and benefits of various approaches, especially with respect to rural areas. Would larger geographic licenses limit the ability of electric utilities or other non-traditional stakeholders in acquiring such licenses? Conversely, are there additional reasons that make larger geographic areas better suited for the broadband license? The Commission asks stakeholders to also comment on what license size would best facilitate relocation of incumbent users.

B. Transition to the New Band Alignment

9. The NPRM first proposes to authorize a market-driven, voluntary exchange process that would allow existing licensees to come together and mutually agree to a plan for relocating site-based incumbents and transitioning the band for broadband use. The Commission recognizes, however, that a voluntary process may not be successful in all markets, particularly those with a substantial number of incumbents. Therefore, in order to facilitate a nationwide realignment for broadband uses, the Commission also seeks comments on the two other methods of transitioning the band to broadband use: an auction of overlay licenses and an incentive auction. The NPRM seeks comment on the costs and benefits of our proposal, any alternatives, and their combinations.

1. A Market-Driven Voluntary Exchange Process

10. The NPRM proposes to initially rely on a market-driven approach through which 900 MHz licensees may engage in voluntary exchange mechanisms to facilitate clearing of the broadband segment. This approach seeks to take advantage of the speed and efficiency of voluntary realignment through private agreements between incumbents. The NPRM proposes to give site-based incumbents the opportunity to relocate on a voluntary basis and allow an eligible party to acquire a broadband license on a county-by-county basis in the cleared spectrum.

11. Under this proposal, the Commission would require the prospective broadband licensee to hold the licenses for all 20 geographically-licensed blocks of 900 MHz SMR spectrum in the relevant county. The prospective broadband licensee could then negotiate with site-based incumbents to move narrowband operations out of the broadband segment and agree to clear the spectrum to enable use of 3/3 megahertz of contiguous spectrum. Subject to the restrictions and requirements discussed in this section, the new broadband licensee could then apply for a license to operate on a primary basis in the 3/3 megahertz broadband segment in each county it successfully clears.

12. Eligibility. To be eligible for a new 900 MHz broadband license in a given county, the NPRM proposes that the applicant must: (1) hold licenses covering the entire county for all 20 geographically-licensed SMR blocks,³ (2) reach an agreement to clear from the broadband segment, or demonstrate how it will protect, all covered incumbent licensees, and (3) agree to return to the Commission all 900 MHz licenses for the relevant county, including any site-based B/ILT or SMR licenses. The NPRM seeks comment on these eligibility restrictions, including whether any of the terms should be defined in greater detail. It also seeks comment on any other eligibility restrictions that may be necessary to ensure an efficient realignment process and to limit the amount of spectrum the Commission must license from inventory.

³ The licensee must hold the rights to all spectrum associated with each of the 20 SMR blocks, i.e., a total of 5 megahertz. Alternatively, the Commission seeks comment on whether to allow a licensee to use any combination of 900 MHz spectrum (e.g., B/ILT and/or SMR) to be eligible for a new broadband license, provided that such spectrum totals at least 5 megahertz and covers the entire county for which it seeks a license.

13. In certain markets, the Commission may currently hold some SMR inventory, such that the prospective broadband licensee could not hold all 20 geographically-licensed blocks of SMR spectrum. The NPRM seeks comment on how to apply the proposed eligibility restriction in such cases. Should the Commission decline to apply this process where the Commission would need to issue additional spectrum from inventory beyond the 1 megahertz already required to create a 3/3 broadband segment in any market? Or, where some geographic-area SMR licenses remain in Commission inventory, should it require the prospective broadband licensee to hold all the SMR licenses that have been issued, provided that it meets some minimum threshold of licenses? If so, what would be the appropriate minimum threshold to facilitate the voluntary exchange process in such markets while also mitigating the risk of an undue windfall to the prospective broadband licensee?

14. Under this proposal, the prospective broadband licensee must either reach an agreement to clear, or demonstrate how it will provide interference protection to, all covered incumbents relating to the county for which it seeks a 3/3 megahertz broadband license. The NPRM proposes to define “covered incumbents” as any site-based licensee that is required under current rules to be protected by the placement of a broadband licensee’s base station at any location within the county. Under existing 900 MHz co-channel separation requirements, co-channel systems must comply with a minimum spacing criteria of at least 113 kilometers (70 miles) separation distance between base stations. Under the Commission’s proposal, the prospective broadband licensee would need to account for all covered incumbents in its Transition Plan by demonstrating one or more of the following: (1) agreement by covered incumbents to relocate from the broadband segment, (2) protection of covered incumbents through compliance with minimum spacing criteria, and/or (3) protection of covered incumbents through new or existing letters of concurrence agreeing to lesser base station separations. The Commission seeks comment on this approach and asks commenters to discuss the costs and benefits of any alternative approach.

15. Because the Commission’s proposal is to implement a process where successful voluntary negotiations in a given market would result in band realignment and issuance of initial broadband licenses

without the filing of mutually exclusive applications, the NPRM seeks comment on the risks that a prospective broadband licensee would realize an undue windfall in markets where a voluntary exchange is achieved. Should the Commission require the new broadband licensee to offset the increase in value resulting from the creation of a contiguous band segment? Should it require the prospective broadband licensee to compensate the U.S. Treasury for the difference between the market value of the 3/3 megahertz broadband license and the total value of the SMR licenses it relinquishes, plus any costs it incurs to relocate incumbents from the broadband segment? The Commission seeks comment on whether these or any other anti-windfall provisions might be appropriate in this proceeding and how to quantify the public benefits of implementing a voluntary exchange option to repurpose the 900 MHz band for broadband use, in light of any potential windfall that might accrue to incumbents.

16. Applications. The NPRM proposes that an application seeking a 900 MHz broadband license must include: (1) a certification that the applicant satisfies the eligibility restrictions (Eligibility Certification), and (2) a plan for transitioning the band in the particular county (Transition Plan) that describes the private agreements between the prospective broadband licensee and all covered incumbents. The Commission proposes that the Transition Plan must describe in detail all information and actions necessary to accomplish the realignment, including: (1) the spectrum frequencies within the broadband segment that the prospective broadband licensee seeks from Commission inventory, (2) the rights to all 20 geographically-licensed SMR blocks, and any site-based SMR or B/ILT licenses in the county that the licensee is relinquishing, (3) the applications that the parties to the agreement will file for spectrum in the narrowband segment in order to relocate or repack licensees, (4) a description of how the applicant will provide interference protection to, and/or relocate from the broadband segment, all covered incumbents, and (5) any rule waivers or other actions necessary to implement the agreement..

17. The NPRM also seeks comment on whether incumbent site-based licensees would be unduly burdened by the imposition of a mandatory relocation requirement. Would requiring mandatory relocation as a component of this transition mechanism be an effective means of mitigating against holdouts, while also preserving the advantages of a purely voluntary and market-driven approach?

Should the Commission limit any mandatory relocation to counties where the prospective broadband licensee holds more than 3 megahertz uplink and 3 megahertz downlink in the 900 MHz band (across the county including both SMR and site-based licenses) and, if so, how should we calculate the site-based spectrum holdings? The Commission seeks comment on the costs and benefits of any approach for addressing the holdout problem.

18. Procedures. The NPRM proposes to commence the voluntary exchange process by issuing a public notice opening a filing window to accept applications consistent with the proposed eligibility and application requirements. Because the voluntary exchange process is an initial solution that may not result in clearing of a 3/3 broadband segment in all markets, potentially requiring supplemental transition methods, the Commission may ultimately implement an overlay or incentive auction in those areas where the process does not result in realignment of the band. The Commission therefore seeks comment on whether the filing window should be open indefinitely, or whether it should designate some period of time by which any qualifying applications must be filed. Would creating a finite window help to encourage negotiations and curtail holdout problems? If so, what period of time would be sufficient to allow incumbents to complete negotiations and develop an agreement to transition the band? Conversely, if the window is undefined, should the Commission provide notice prior to closing the window in those areas where voluntary transition is not successful? If so, how much prior notice would be sufficient for incumbents with pending negotiations to finalize an agreement and make the necessary filings? The Commission seek comment on these and any other issues relating to the application filing window.

2. An Auction of Overlay Licenses

19. The NPRM also seeks comment on whether an auction of overlay 900 MHz broadband licenses, coupled with the right to mandatorily relocate narrowband incumbents in the entire band, might be a viable alternative method in certain markets to ensure adequate access to broadband spectrum. Under this approach, the Commission would conduct, where appropriate, an auction of a single 3/3 megahertz overlay license in a geographic area (e.g., county or other area which the Commission finds most suitable for this transition method). The winning bidder would be entitled to require incumbents to relocate to

narrowband frequencies outside the 3/3 broadband segment, provided it pays for appropriate relocation costs as discussed below. The Commission seeks comment on this alternative approach, particularly the costs and benefits associated with implementation.

20. The NPRM also asks and seeks comment on whether it should consider conducting an auction of a single 5/5 megahertz overlay license in each market. Under the auction of either a 3/3 or 5/5 megahertz overlay license approach, the NPRM also seeks comment on establishing a framework for compensating relocated incumbents. Should the Commission require that overlay licensees provide mandatorily relocated incumbents with “comparable facilities,” as the Commission has required in other bands? Specifically, the Commission seeks comment on the extent to which the rules governing 800 MHz rebanding would be appropriate for relocation in the 900 MHz band, or whether other relocation methodologies are more appropriate.

21. The NPRM seeks comment on the appropriate overall time frame for mandatory relocation and how the Commission should proceed after its completion. Would a 2-year period for mandatory relocation be appropriate, or should the Commission consider a shorter or longer time frame?

3. An Incentive Auction

22. The NPRM also seeks comment on whether the Commission should consider using its incentive auction authority to reduce encumbrances in the 900 MHz band. Under an incentive auction approach, the Commission would create a single 3/3 megahertz broadband license in each market by offering incentive-payments to existing MTA licensees in exchange for relinquishing spectrum usage rights, while also repacking site-based and any holdout MTA licensees. Incumbents with MTA licenses would be offered incentive payments in the form of vouchers in exchange for a commitment to relinquish their licensed spectrum usage rights. Accepting vouchers would be voluntary, however, and any MTA licensees participating in the auction for the broadband license would be required to commit to accepting vouchers for all their current licenses. In addition, any incumbent that wishes to bid for new licenses offered at auction would be required to relinquish all of its existing licenses for vouchers. The Commission would then run a clock auction to set both the price of new county-level broadband licenses

and the amounts that incumbents will receive for relinquishing their MTA licenses. This single clock auction would simultaneously serve as the reverse and forward components of the incentive auction. At the end of the auction, the value of an incumbent's vouchers would be determined by the MHz-pops of spectrum usage rights relinquished and the price per unit of spectrum in the market as determined in an auction for the broadband license.

23. Under the incentive auction approach, the Commission would require site-based incumbent licensees to be repacked into the narrowband segments. All site-based incumbents (both within and outside the broadband segment) would be repacked simultaneously with the objective of minimizing the total number of channels required for these licensees to operate. Newly created vacant channels would be available to repack non-participating MTA licensees and to create the broadband license. If the repacking plan determines that there is insufficient spectrum to create a 3/3 megahertz broadband license, site-based licensees would be offered vouchers in exchange for a commitment to relinquish licenses. The NPRM seeks comment on this alternative transition mechanism.

24. The NPRM also seek comment on whether to reimburse any costs of relocating existing incumbents and, if so, how significant those costs likely would be. It also seeks comment on how to quantify the existing spectrum usage rights for purposes of offering vouchers to incumbents that do not hold geographic licenses in cases where such offers are required to achieve a 3/3 megahertz broadband license.

25. The clock auction format would proceed in a series of rounds, with simultaneous bidding for all the county broadband licenses. In each round, the auction would announce prices for each county license, and qualified bidders would indicate whether they are willing to purchase the county license at that clock price. Bidders would be subject to activity and eligibility rules that govern the pace at which they participate in the auction. In each county, the clock price for the license would increase from round to round if bidders indicate total demand that exceeds one license. If supply is equal to demand in a county, a bidder would not be permitted to create "excess supply" by reducing its demand for the broadband license. The clock rounds would continue until, for every county license available, the number of licenses

demand was less than or equal to one. At that point, those bidders indicating demand for a county license at the final clock phase price would be deemed winning broadband license bidders.

26. Following the auction, the processing of voucher payments for each incumbent licensee would depend on whether the spectrum offered in the reverse auction was needed in the forward broadband license auction. In counties where demand at the end of the forward auction equaled supply, the Commission would cancel the participating incumbents' licenses and make payments equal to the product of the final clock price and the MHz-Pops of spectrum relinquished by the incumbent. In counties where there was no demand for the broadband license, the Commission proposes that incumbents would retain their existing spectrum usage rights and would receive no payments for their vouchers. To minimize the disruption to existing services, the Commission further proposes in this case that incumbent licensees would not be repacked since spectrum in these markets is unlikely to be sufficiently scarce to justify the cost of the repack. Alternatively, the Commission could pay for all vouchers and/or repack incumbents in every county regardless of the demand for a broadband license. The NPRM seeks comment on these and alternative approaches to implementing voucher payments and repacking incumbents.

27. The NPRM also seeks comments on the method for ensuring that the forward auction for broadband licenses will generate sufficient revenues to pay for all reimbursed vouchers and incumbent relocation costs, should it be necessary and possible to make such payments. In the broadcast incentive auction, the Commission adopted a "final stage rule" to ensure that auction proceeds would be sufficient to cover costs, and in other auctions the Commission has adopted aggregate reserve prices to fund the estimated relocation costs. In part, the rule in the broadcast incentive auction implemented a net revenue requirement for the auction that accounted for any bidding credits, relocation expenses, and incentive payments. Under such a net revenue requirement, the auction would not close unless auction proceeds are sufficient to cover all required payments. The Commission seeks comment on whether it should establish such a net revenue requirement.

C. Licensing and Operating Rules

28. The NPRM proposes to designate the 900 MHz broadband service as a Miscellaneous Wireless Communications Service governed by Part 27 of the Commission's rules and asks commenters to identify any aspects of the Commission's general Part 27 service rules that should be modified to accommodate the characteristics of the proposed 900 MHz broadband segment. In the alternative, the Commission asks commenters to address whether 900 MHz broadband licenses should be regulated under Part 90 of the Commission's rules so that broadband licensees and narrowband incumbents in the 900 MHz band would be operating under a single set of rules.

29. Eligibility. In the event the Commission adopts a voluntary exchange process for transitioning the 900 MHz band, the NPRM proposes specific eligibility restrictions for a new 3/3 megahertz broadband license. Alternatively, if the Commission adopts an overlay or incentive auction approach for realigning the band, consistent with the Commission's approach to date toward flexible use geographic licensing, the Commission seeks comment on adopting an open eligibility standard for such licenses in the 900 MHz broadband segment. Would adopting an open eligibility standard for the licensing of 900 MHz broadband spectrum through competitive bidding, where appropriate, encourage efforts to develop new technologies, products, and services, while helping to ensure efficient use of this spectrum? The Commission asks commenters to discuss the costs and benefits of the open eligibility proposal on competition, innovation, and investment.

30. Mobile spectrum holdings policies. The NPRM seeks comment generally on whether and how to address any mobile spectrum holdings issues involving 900 MHz broadband spectrum to meet the Commission's statutory requirements and to ensure competitive access to the band. Given these characteristics, the Commission is not inclined to include the 900 MHz broadband segment in the Commission's spectrum screen, which helps to identify markets that may warrant further competitive analysis when evaluating proposed secondary market transactions. The NPRM asks commenters advocating for inclusion of the 900 MHz broadband segment in the screen to address specifically the suitability of this spectrum for use in the provision of mobile telephony/broadband services and to further

discuss and quantify the costs and benefits of any proposals to apply mobile spectrum holdings policies to the proposed 900 MHz broadband segment.

31. License term. The NPRM proposes to adopt a 15-year term for licenses in the 900 MHz broadband spectrum and seeks comment on the costs and benefits of this proposal. In addition, the Commission seeks comment on whether and to what extent we should adopt shorter terms for subsequent renewal terms, given that relocation, band clearance, and initial performance requirements already will have been satisfied upon renewal of a given 900 MHz broadband license. It invites commenters to submit alternate proposals for the appropriate license term, which should similarly include a discussion of the costs and benefits.

32. Performance requirements. The NPRM seeks comment on adopting quantifiable benchmarks in the proposed broadband segment. Specifically, it seeks comment on requiring a 900 MHz broadband licensee to provide reliable signal coverage and to offer service to at least 45 percent of the population in each of its license areas within six years of the license issuance date (first performance benchmark), and to at least 80 percent of the population in each of its license areas within 12 years from the license issue date (second performance benchmark). The period for complying with these performance requirements would begin on the date that the license is issued, irrespective of the extent to which the broadband licensee is able to successfully relocate existing licensees out of the 3/3 megahertz segment. After satisfying the 12-year, second performance benchmark, a licensee will be expected to continue to provide reliable signal coverage and offer service at or above that level for the remaining three years in the proposed 15-year license term in order to warrant license renewal.

33. The NPRM also seeks comment on whether the proposals discussed above represent the appropriate balance between license-term length and a significant final buildout requirement. It seeks comment on the proposed buildout requirements and any potential alternatives and asks what alternative metrics would be necessary, if any, to accommodate potential users of the 900 MHz broadband segment, such as electric utilities or other B/ILT eligibles. Should the Commission adopt specific performance requirements tailored to account for use of the spectrum for private business purposes? The Commission

also seeks comment on whether small entities face any special or unique issues with respect to buildout requirements such that they would require certain accommodations or additional time to comply. The Commission further asks commenters to discuss and quantify how any proposed buildout requirements will affect investment and innovation, as well as discuss and quantify other costs and benefits associated with the proposal.

34. The NPRM proposes to require 900 MHz broadband licensees to deploy broadband technologies and offer broadband services in satisfying the proposed performance requirements and seeks comment on how to define broadband services for the purposes of this obligation. It also seeks comment on whether to similarly apply a broadband deployment requirement if the Commission uses an incentive or overlay auction to transition the 900 MHz band.

35. Penalty for failure to meet performance requirements. The NPRM proposes that, in the event a 900 MHz broadband licensee fails to meet the first performance benchmark, the licensee's second benchmark and license term would be reduced by two years, thereby requiring it to meet the second performance benchmark two years sooner (i.e., at 10 years into the license term) and reducing its license term to 13 years. The NPRM further proposes that, in the event a 900 MHz broadband licensee fails to meet the second performance benchmark for a particular license area, its authorization for that license area shall terminate automatically without Commission action.

36. The NPRM proposes that, in the event a licensee's authority to operate terminates, the licensee's spectrum rights would become available for reassignment pursuant to the competitive bidding provisions of section 309(j) of the Communications Act (if 900 MHz broadband licenses are assigned through competitive bidding). Further, consistent with the Commission's rules for other broadband licenses, the Commission proposes that any 900 MHz broadband licensee that forfeits its license for failure to meet its performance requirements would be precluded from regaining that license. The NPRM seeks comment on other penalties that would effectively ensure timely buildout.

37. Competitive bidding procedures. If the Commission adopts a geographic area licensing scheme that allows acceptance of mutually exclusive applications for 900 MHz broadband licenses, the

Commission will grant the licenses through a system of competitive bidding. The NPRM proposes to conduct any auction for 900 MHz broadband licenses in conformity with the general competitive bidding rules set forth in Part 1, subpart Q, of the Commission's rules and seeks comment on general application of the Part 1 competitive bidding rules to any auction of 900 MHz broadband spectrum licenses. It also seeks comment on whether any of the Commission's Part 1 rules or other competitive bidding policies would be inappropriate or should be modified for an auction of licenses in this band. The Commission seeks comment on the costs and benefits of these proposals.

38. The NPRM seeks comment on whether to make bidding credits for designated entities available for this band and how to define a small business if the Commission decides to offer small business bidding credits. It seeks comment on defining a small business as an entity with average gross revenues for the preceding three years not exceeding \$55 million, and a very small business as an entity with average gross revenues for the preceding three years not exceeding \$20 million. A qualifying "small businesses" would be eligible for a bidding credit of 15 percent and qualifying "very small businesses" would be eligible for a bidding credit of 25 percent. The Commission seeks comment on whether to offer rural service providers a designated entity bidding credit for licenses in this band.

39. Renewal term construction obligations. In addition to, and independent of, the general renewal requirements contained in section 1.949 of the Commission's rules, which apply to all Wireless Radio Services (WRS) licensees, the NPRM also seeks comment on application of specific renewal term construction obligations to 900 MHz broadband licensees. The WRS Renewal Reform Further Notice of Proposed Rulemaking (WRS Renewal Reform FNPRM) sought comment on various renewal term construction obligations, such as incremental increases in the construction metric in each subsequent renewal term—e.g., by 5 or 10 percent—up to a certain threshold. The WRS Renewal Reform FNPRM proposed to apply rules adopted in that proceeding to all flexible geographic licenses. Given the Commission's proposal to license the 900 MHz band on a geographic basis for flexible use, any additional renewal term construction obligations proposed in the WRS Renewal Reform FNPRM also would apply to licenses in the 900 MHz broadband spectrum. The NPRM seeks comment on whether

there are unique characteristics of 900 MHz broadband spectrum that might require a different approach to the 900 MHz band from the various proposals raised by the WRS Renewal Reform FNPRM. The Commission asks commenters advocating rules specific to the reconfigured 900 MHz band to address the costs and benefits of their proposed rules and also discuss how a given proposal would encourage investment and deployment in areas that might not otherwise benefit from significant wireless coverage.

D. Technical Rules

1. Broadband Segment

40. The NPRM seeks comment on the proposed technical rules. It proposes to permit an effective radiated power for base and repeater stations in the broadband segment not to exceed 400 watts/megahertz in non-rural areas and 800 watts/megahertz in rural areas, with the maximum permissible power decreasing as the HAAT rises above 304 meters. It also proposes to establish a median field strength limit of 40 dB μ V/m at any given point along the geographic license area boundary in the broadband segment unless the affected licensee agrees to a higher field strength limit. This limit corresponds to the current field strength limit at the border between co-channel 900 MHz SMR licensees.

41. The NPRM proposes to make broadband licensees responsible for preventing harmful interference to narrowband operations and for resolving any interference in the shortest time practicable. Under existing 900 MHz co-channel separation requirements, co-channel systems generally must comply with a minimum spacing criteria of at least 113 kilometers (70 miles) separation distance between base stations. The NPRM seeks comment on applying existing minimum spacing criteria to 900 MHz broadband base station operations as a means of protecting co-channel narrowband licensees.

42. In addition, section 90.672(a)(1)(i)(A)-(B) currently defines unacceptable interference in the 900 MHz B/ILT Pool as a median desired signal strength of -88 dBm or higher as measured at the radiofrequency input of the receiver of a mobile unit, or -85 dBm or higher as measured at the radiofrequency input of the receiver of a portable station. Some commenters, however, propose to define harmful interference as receiving a median desired signal strength of -98 dBm or higher as measured at the radiofrequency input of the receiver of a mobile unit, or -95 dBm or higher as measured at the

radiofrequency input of the receiver of a portable station (hand-held device), and suggest that we account for environmental noise by incorporating fade margins of 10 dB. The NPRM seeks comment on whether these criteria are appropriate, or whether the Commission should adopt technical standards and procedures that more closely align with the existing rules regarding unacceptable interference to non-cellular 800 MHz licensees from 800 MHz cellular systems or Part 22 Cellular Radiotelephone systems, and within the 900 MHz B/ILT Pool. The Commission also asks whether it is practical to adopt a single standard to protect all narrowband operations from broadband operations, or whether separate criteria are needed for different circumstances, such as if the 897.5-900.5 MHz/936.5-939.5 MHz band is being used for broadband operations in one area but an adjacent area has not transitioned to the new band alignment.

43. The NPRM proposes to establish an out-of-band emission limit outside a licensee's frequency band of operation to be attenuated by at least $43 + 10 \log (P)$ dB for uplink operations in the 897.5-900.5 MHz band and by at least $50 + 10 \log (p)$ dB for downlink operations in the 936.5-939.5 MHz band. The NPRM asks commenters to discuss whether the proposed out-of-band emission limits are sufficient to protect narrowband operations in the adjacent narrowband segments, and whether the Commission should consider other harmful interference mitigation methods, such as limits on LTE transmitter power or additional transmitter filtering requirements. The Commission also asks commenters to discuss whether the proposed technical parameters are consistent with interference resistance of current 900 MHz narrowband radio equipment and systems.

2. Narrowband Segments

44. The NPRM seeks comment on whether any changes to the existing technical and operational rules are necessary or desirable to sustain continued 900 MHz site-based narrowband operations. Are the existing Part 90 technical rules suitable for narrowband operations in the newly designated paired narrowband segments? Specifically, given the proposal to eliminate the distinction between B/ILT and SMR blocks in the narrowband segment in transitioned markets, would new and existing narrowband segment licensees need additional or modified interference protections? Under the voluntary exchange proposal, the band may be transitioned to the new broadband alignment on a county-by-county basis.

Where a county has successfully been transitioned, would narrowband licensees in adjacent counties not transitioned to broadband require modified interference protection from newly licensed co-channel broadband operations? If so, the Commission asks commenters to specify the changes they believe should be made to the technical and operational rules for the two narrowband segments.

II. PROCEDURAL MATTERS

Initial Regulatory Flexibility Act Analysis

77. As required by the Regulatory Flexibility Act of 1980 (RFA) (5 U.S.C. 603), the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities of the proposals addressed in this NPRM. The IRFA is set forth in Appendix B. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines for comments on the NPRM and should have a separate and distinct heading designating them as responses to the IRFA. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of this NPRM, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with the Regulatory Flexibility Act.

Initial Paperwork Reduction Act Analysis

78. The NPRM contains proposed modified information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. § 3506(c)(4), the Commission seeks specific comment on how it might further reduce the information collection burden for small business concerns with fewer than 25 employees.

V. ORDERING CLAUSES

79. It is ordered, pursuant to the authority found in sections 4(i), 302, 303, and 309, of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 152, 153, 154(i), 201, 301, 302a, 303, 304,

307, 308, 309, 310, 319, 324, 332, 333, and section 1.411 of the Commission's Rules, 47 CFR 1.411, that this Notice of Proposed Rulemaking is hereby adopted.

80. It is further ordered that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, shall send a copy of this Notice of Proposed Rulemaking, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

List of Subjects in 47 CFR Parts 1, 2, 20, 27, and 90

Administrative practice and procedure, Common carriers, Communications common carriers, Environmental impact statements, Radio, Telecommunications.
Federal Communications Commission.

Katura Jackson,
Federal Register Liaison Officer,
Office of the Secretary.

Proposed Rules

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR parts 1, 2, 20, 27 and 90 as follows:

PART 1—PRACTICE AND PROCEDURE

1. The authority citation for part 1 continues to read as follows:

Authority: 47 U.S.C. chs. 2, 5, 9, 13; Sec. 102(c), Div. P, Public Law 115-141, 132 Stat. 1084; 28 U.S.C. 2461, unless otherwise noted.

2. Section 1.907 is amended by revising the definition of “Covered Geographic Licenses” to read as follows:

§ 1.907 Definitions.

* * * * *

Covered Geographic Licenses. Covered geographic licenses consist of the following services: 1.4 GHz Service (part 27, subpart I of this chapter); 1.6 GHz Service (part 27, subpart J); 24 GHz Service and Digital Electronic Message Services (part 101, subpart G); 218-219 MHz Service (part 95, subpart F); 220-222 MHz Service, excluding public safety licenses (part 90, subpart T); 600 MHz Service (part 27, subpart N); 700 MHz Commercial Services (part 27, subparts F and H); 700 MHz Guard Band Service (part 27, subpart G); 800 MHz Specialized Mobile Radio Service (part 90, subpart S); 900 MHz Specialized Mobile Radio Service (part 90, subpart S); 900 MHz Broadband Service (part 27, subpart P); Advanced Wireless Services (part 27, subparts K and L); Air-Ground Radiotelephone Service (Commercial Aviation) (part 22, subpart G); Broadband Personal Communications Service (part 24, subpart E); Broadband Radio Service (part 27, subpart M); Cellular Radiotelephone Service (part 22, subpart H); Dedicated Short Range Communications Service, excluding public safety licenses (part 90, subpart M); H Block Service (part 27, subpart K); Local Multipoint Distribution Service (part 101, subpart L); Multichannel Video Distribution and Data Service (part 101, subpart P); Multilateration Location and Monitoring Service (part 90, subpart M); Multiple Address Systems (EAs) (part 101, subpart O); Narrowband Personal Communications Service (part 24, subpart D); Paging and

Radiotelephone Service (part 22, subpart E; part 90, subpart P); VHF Public Coast Stations, including Automated Maritime Telecommunications Systems (part 80, subpart J); Upper Microwave Flexible Use Service (part 30); and Wireless Communications Service (part 27, subpart D).

* * * * *

3. Section 1.1307 is amended by revising Table 1 by revising the entry for Miscellaneous Wireless Communications Services, and adding a new entry for 900 MHz Broadband Service between the entry for Broadband Radio Service and Educational Broadband Service and the entry for Upper Microwave Flexible Use Service, to read as follows:

§ 1.1307 Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.

* * * * *

(b) * * *

(1) * * *

Table 1—Transmitters, Facilities and Operations Subject to Routine Environmental Evaluation

Service (title 47 CFR rule part)	Evaluation required if:
* * *	* * *
Miscellaneous Wireless Communications Services (part 27 except subparts M and P)	(1) For the 1390-1392 MHz, 1392-1395 MHz, 1432-1435 MHz, 1670-1675 MHz, and 2385-2390 MHz bands: Non-building-mounted antennas: height above ground level to lowest point of antenna <10 m and total power of all channels >2000 W ERP (3280 W EIRP). Building-mounted antennas: Total power of all channels >2000 W ERP (3280 W EIRP).
* * *	* * *

900 MHz Broadband Service (subpart P of part 27)	<p>Non-building-mounted antennas: height above ground level to lowest point of antenna <10 m and total power of all channels >1000 W ERP (1640 W EIRP).</p> <p>Building-mounted antennas: Total power of all channels >1000 W ERP (1640 W EIRP).</p>
* * *	* * *

* * * * *

4. Section 1.9005 is amended by adding a new paragraph (mm) to read as follows:

§ 1.9005 Included services.

* * * * *

(mm) The 900 MHz Broadband Service (part 27 of this chapter).

PART 2—FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

5. The authority citation for part 2 continues to read as follows:

Authority: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

6. Section 2.106 is amended by revising page 31 to read as follows:

International Table			United States Table		FCC Rule Part(s)
Region 1 Table	Region 2 Table	Region 3 Table	Federal Table	Non-Federal Table	
890-942 FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 Radiolocation	890-902 FIXED MOBILE except aeronautical mobile 5.317A Radiolocation 5.318 5.325 902-928 FIXED Amateur Mobile except aeronautical mobile 5.325A Radiolocation 5.150 5.325 5.326 928-942 FIXED MOBILE except aeronautical mobile 5.317A Radiolocation	890-942 FIXED MOBILE 5.317A BROADCASTING Radiolocation	890-902 US116 US268 G2 902-928 RADIOLOCATION G59 5.150 US218 US267 US275 G11 928-932 US116 US268 G2 932-935 FIXED US268 G2 935-941 US116 US268 G2	(See previous page) 894-896 AERONAUTICAL MOBILE US116 US268 896-901 FIXED MOBILE except aeronautical mobile US116 US268 901-902 FIXED MOBILE US116 US268 902-928 5.150 US218 US267 US275 928-929 FIXED US116 US268 NG35 929-930 FIXED LAND MOBILE US116 US268 930-931 FIXED MOBILE US116 US268 931-932 FIXED LAND MOBILE US116 US268 932-935 FIXED US268 NG35 935-940 FIXED MOBILE except aeronautical mobile US116 US268 940-941 FIXED MOBILE US116 US268	Public Mobile (22) Wireless Communications (27) Private Land Mobile (90) Personal Communications (24) ISM Equipment (18) Private Land Mobile (90) Amateur Radio (97) Public Mobile (22) Private Land Mobile (90) Fixed Microwave (101) Private Land Mobile (90) Personal Communications (24) Public Mobile (22) Public Mobile (22) Fixed Microwave (101) Wireless Communications (27) Private Land Mobile (90) Personal Communications (24)

PART 20—COMMERCIAL MOBILE SERVICES

7. The authority citation for part 20 continues to read as follows:

Authority: 47 U.S.C. 151, 152(a) 154(i), 157, 160, 201, 214, 222, 251(e), 301, 302, 303, 303(b), 303(r), 307, 307(a), 309, 309(j)(3), 316, 316(a), 332, 610, 615, 615a, 615b, 615c, unless otherwise noted.

8. Section 20.12 is amended by revising paragraph (a)(1) to read as follows:

§ 20.12 Resale and roaming.

(a)(1) Scope of manual roaming and resale. Paragraph (c) of this section is applicable to providers of Broadband Personal Communications Services (part 24, subpart E of this chapter), Cellular Radio Telephone Service (part 22, subpart H of this chapter), Specialized Mobile Radio Services in the 800 MHz and 900 MHz bands (included in part 90, subpart S of this chapter), and 900 MHz Broadband Service (included in part 27, subpart P of this chapter) if such providers offer real-time, two-way switched voice or data service that is interconnected with the public switched network and utilizes an in-network switching facility that enables the provider to re-use frequencies and accomplish seamless hand-offs of subscriber calls. The scope of paragraph (b) of this section, concerning the resale rule, is further limited so as to exclude from the requirements of that paragraph those Broadband Personal Communications Services C, D, E, and F block licensees that do not own and control and are not owned and controlled by firms also holding cellular A or B block licenses.

* * * * *

PART 27—MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

9. The authority citation for part 27 continues to read as follows:

Authority: 47 U.S.C. 154, 301, 302a, 303, 307, 309, 332, 336, 337, 1403, 1404, 1451, and 1452, unless otherwise noted.

10. Section 27.1 is amended by adding paragraph (b)(15) to read as follows:

§ 27.1 Basis and purpose.

* * * * *

(b) * * *

(15) 897.5-900.5 MHz and 936.5-939.5 MHz.

* * * * *

11. Section 27.5 is amended by adding paragraph (m) to read as follows:

§ 27.5 Frequencies.

* * *

(m) 900 MHz Broadband. The paired 897.5-900.5 MHz and 936.5-939.5 MHz bands are available for assignment on a geographic basis. For operations in the 897.5-900.5 MHz and 936.5-939.5 MHz bands (designated as Channels 121-360 in section 90.613 of this chapter), no new applications for narrowband systems under part 90, subpart S of this chapter will be accepted and no applications for modification of existing stations for major changes as defined in §1.929 of this chapter will be accepted pursuant to §27.1517 of this part.

* * * * *

12. Section 27.12 is amended by revising paragraph (a) to read as follows:

§27.12 Eligibility.

(a) Except as provided in paragraph (b) and in §§27.604, 27.1201, 27.1202, and 27.1509, any entity other than those precluded by section 310 of the Communications Act of 1934, as amended, 47 U.S.C. 310, is eligible to hold a license under this part.

13. Section 27.13 is amended by adding paragraph (m) to read as follows:

§ 27.13 License Period.

* * *

(m) 900 MHz Broadband. Authorizations for the 897.5-900.5 MHz and 936.5-939.5 MHz bands will have a term not to exceed 15 years from the date of initial issuance.

* * * * *

14. Part 27 is amended by adding a new subpart P to read as follows:

Subpart P—Regulations Governing Licensing and Use of 900 MHz Broadband Service in the 896-901 and 935-940 MHz Bands

27.1501 Scope

27.1503 Definitions

27.1505 Licensing of the 897.5-900.5/936.5-939.5 MHz band

27.1507 900 MHz Broadband subject to competitive bidding

27.1509 Eligibility

27.1511 Performance requirements

27.1513 [Reserved]

27.1515 [Reserved]

27.1517 Frequencies

27.1519 Effective radiated power limits for 900 MHz Broadband systems

27.1521 Field strength limit

27.1523 [Reserved]

27.1525 Emission limits

27.1527 [Reserved]

§ 27.1501 Scope.

This subpart sets out the regulations governing the licensing and operations of 900 MHz BB systems operating in the 897.5-900.5/936.5-939.5 MHz band. It includes eligibility requirements and operational and technical standards for stations licensed in this band. It also supplements the rules regarding application procedures contained in part 1, subpart F of this chapter and the competitive bidding procedures contained in part 1, subpart Q of this chapter. The rules in this subpart are to be read in conjunction with the applicable requirements contained elsewhere in this part; however, in case of conflict, the provisions of this subpart shall govern with respect to licensing, competitive bidding and

operation in this frequency band.

§ 27.1503 Definitions.

Terms used in this subpart shall have the following meanings:

(a) 900 MHz Broadband (900 MHz BB). The market-based 900 MHz broadband systems in the 897.5-900.5/936.5-939.5 MHz band licensed by the Commission pursuant to the provisions of this subpart.

(b) 900 MHz Broadband (900 MHz BB) licensee. An entity that holds a 900 MHz BB license issued pursuant to §27.1505 of this subpart.

(c) 900 MHz Narrowband. The segment of realigned 900 MHz spectrum in the 896-897.5/900.5-901/935-936.5/939.5-940 MHz band designated for narrowband operations and licensed pursuant to 47 CFR part 90, subpart S of this chapter.

(d) Covered incumbent licensee. Any entity that holds an existing site-based license in the 897.5-900.5/936.5-939.5 MHz band that, pursuant to §90.621 of this chapter, is required to be protected by the 900 MHz BB licensee's placement of a base station at any location within the county covered by the BB license.

(e) Power spectral density (PSD). The power of an emission in the frequency domain, such as in terms of ERP or EIRP, stated per unit bandwidth, e.g., watts/MHz.

(f) Prospective broadband licensee. An entity that holds the licenses for all 20 blocks of geographically-licensed SMR spectrum in the 896-901/935-940 MHz band and seeks to acquire a 900 MHz BB license via a Voluntary Exchange Process.

(g) Voluntary Exchange Process. The process for realigning the 896-901/935-940 MHz band, whereby the prospective broadband licensee and covered incumbent licensees voluntarily agree to a Transition Plan that will relocate to the 900 MHz Narrowband segment and/or provide interference protection to all incumbent operations, thereby making the 900 MHz Broadband segment available for the prospective broadband licensee's use, pursuant to the provisions of this subpart.

(h) Transition Plan. Under a Voluntary Exchange Process for realigning the 900 MHz band, a filing made to the Commission as part of the prospective broadband licensee's application for a new 900 MHz BB license that describes: (1) the spectrum frequencies within the broadband segment that the prospective broadband licensee seeks from Commission inventory, (2) the rights to all 20 geographically-licensed SMR blocks, and any site-based SMR or B/ILT licenses in the county that the licensee is relinquishing, (3) the applications that the parties to the agreement will file for spectrum in the narrowband segment in order to relocate or repack licensees, (4) a description of how the applicant will provide interference protection to, and/or relocate from the broadband segment, all covered incumbents, and (5) any rule waivers or other actions necessary to implement the Transition Plan.

§ 27.1505 Licensing of the 897.5-900.5/936.5-939.5 MHz band.

(a) License Area. [Reserved]

(b) A 900 MHz BB licensee that permanently discontinues service as defined in §1.953 must notify the Commission of the discontinuance within 10 days by filing FCC Form 601 requesting license cancellation. An authorization will automatically terminate, without specific Commission action, if service is permanently discontinued as defined in this chapter, even if a licensee fails to file the required form requesting license cancellation.

§ 27.1507 900 MHz Broadband subject to competitive bidding.

Mutually exclusive initial applications for 900 MHz broadband licenses are subject to competitive bidding. The general competitive bidding procedures set forth in 47 CFR part 1, subpart Q of this chapter will apply unless otherwise provided in this subpart.

§ 27.1509 Eligibility

(a) Voluntary Exchange Process. Eligibility for a 900 MHz BB license in a county that is transitioned using a Voluntary Exchange Process is limited to the following restrictions:

(1) The applicant must hold the licenses for all 20 blocks of geographically-licensed 900 MHz SMR spectrum in the county;

(2) The applicant must account for all covered incumbent(s) by demonstrating one or more of the

following: (i) agreement by covered incumbent(s) to relocate from the broadband segment, (ii) protection of covered incumbent(s) through compliance with minimum spacing criteria set forth in §90.621(b) of this chapter, and/or (iii) protection of covered incumbent(s) through new or existing letters of concurrence agreeing to lesser base station separations. The applicant may use its current 900 MHz holdings in the narrowband segment to relocate covered incumbents. Spectrum used for the purposes of relocating incumbent(s) may not exceed the incumbent's current spectrum holdings in the relevant county, unless additional channels are necessary to achieve equivalent coverage and/or capacity; and

(3) The applicant must agree to return to the Commission the rights to all 20 blocks of geographically-licensed SMR spectrum in the relevant county, as well as any B/ILT or SMR site-based licenses.

(b) Auction. Eligibility for a 900 MHz BB license in a county that has been transitioned using an auction mechanism is subject to the restrictions listed in §27.12 of this chapter.

§ 27.1511 Performance requirements.

(a) 900 MHz BB licensees shall demonstrate compliance with performance requirements by filing a construction notification with the Commission, within 15 days of the expiration of the applicable benchmark, in accordance with the provisions set forth in §1.946(d) of this chapter.

(1) The licensee must certify whether it has met the applicable performance requirements. The licensee must file a description and certification of the areas for which it is providing service. The construction notifications must include electronic coverage maps and supporting technical documentation regarding the type of service it is providing for each licensed area within its service territory and the type of technology used to provide such service, and certify the accuracy of such documentation. Supporting documentation must include the assumptions used to create the coverage maps, including the propagation model and the signal strength necessary to provide reliable service with the licensee's technology.

(2) To demonstrate compliance with these performance requirements, licensees shall use the most recently available decennial U.S. Census Data at the time of measurement and shall base their measurements of population served on areas no larger than the Census Tract level. The population within

a specific Census Tract (or other acceptable identifier) will be deemed served by the licensee only if it provides reliable signal coverage to and offers service within the specific Census Tract (or other acceptable identifier). To the extent the Census Tract (or other acceptable identifier) extends beyond the boundaries of a license area, a licensee with authorizations for such areas may include only the population within the Census Tract (or other acceptable identifier) towards meeting the performance requirement of a single, individual license.

(b) The following performance requirements apply to 900 MHz BB licensees:

(1) A licensee shall provide reliable signal coverage and offer service within six years from the date of the initial license to at least 45 percent of the population in each of its license areas (“First Buildout Requirement”).

(2) A licensee shall provide reliable signal coverage and offer service within 12 years from the date of the initial license to at least 80 percent of the population in each of its license areas (“Second Buildout Requirement”).

(3) If a licensee fails to establish that it meets the First Buildout Requirement for a particular license area, the licensee’s Second Buildout Requirement deadline and license term will be reduced by two years.

(4) If a licensee fails to establish that it meets the Second Buildout Requirement for a particular license area, its authorization for each license area in which it fails to meet the Second Buildout Requirement shall terminate automatically without Commission action, and the licensee will be ineligible to regain it if the Commission makes the license available at a later date.

(c) Broadband Service Requirement. To satisfy the performance requirements described in paragraph (b), 900 MHz BB licensees must deploy broadband technologies and offer broadband services.

§ 27.1513 [Reserved]

§ 27.1515 [Reserved]

§ 27.1517 Frequencies.

896-901 MHz and 935-940 MHz bands. The 897.5-900.5 MHz and 936.5-939.5 MHz band

segments are available for licensing with an authorized bandwidth up to 3 megahertz. The 897.5-900.5 MHz segment must only be used for uplink transmissions. The 936.5-939.5 MHz segments must only be used for downlink transmissions.

§ 27.1519 Effective radiated power limits for 900 MHz Broadband systems.

(a) Maximum ERP. The power limits specified in this section are applicable to operations outside the Canadian and Mexican border areas. Power limits for operation in those areas are specified in section 27.1523 of this part.

(1) General Limit.

(i) The ERP for base and repeater stations must not exceed 400 watts/megahertz power spectral density (PSD) per sector and an antenna height of 304 m height above average terrain (HAAT), except that antenna heights greater than 304 m HAAT are permitted if power levels are reduced below 400 watts/megahertz ERP in accordance with Table 1 of paragraph (e) of this section.

(ii) Provided that they also comply with paragraphs (b) and (c) of this section, licensees are permitted to operate base and repeater stations with up to a maximum ERP of 1000 watts/megahertz power spectral density (PSD) per sector and an antenna height of 304 m height above average terrain (HAAT), except that antenna heights greater than 304 m HAAT are permitted if power levels are reduced below 1000 watts/megahertz ERP in accordance with Table 2 of paragraph (e) of this section.

(2) Rural Areas. For systems operating in areas more than 110 km (68.4 miles) from the U.S./Mexico border and 140 km (87 miles) from the U.S./Canadian border that are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census:

(i) The ERP for base and repeater stations must not exceed 800 watts/megahertz power spectral density (PSD) per sector and an antenna height of 304 m height above average terrain (HAAT), except that antenna heights greater than 304 m HAAT are permitted if power levels are reduced below 800 watts/megahertz ERP in accordance with Table 3 of paragraph (e) of this section.

(ii) Provided that they also comply with paragraphs (b) and (c) of this section, base and repeater stations may operate with up to a maximum ERP of 2000 watts/megahertz power spectral density (PSD) per sector and an antenna height of 304 m height above average terrain (HAAT), except that antenna heights greater than 304 m HAAT are permitted if power levels are reduced below 2000 watts/megahertz ERP in accordance with Table 4 of paragraph (e) of this section.

(3) Mobile, control and auxiliary test stations must not exceed 10 watts ERP.

(4) Portable stations must not exceed 3 watts ERP.

(b) Power flux density (PFD). Each 900 MHz BB base or repeater station that exceeds the ERP limit of paragraphs (a)(1)(i) or (a)(2)(i) of this section must be designed and deployed so as not to exceed a modeled PFD of 3000 microwatts/m²/MHz over at least 98% of the area within 1 km of the base or repeater station antenna, at 1.6 meters above ground level. To ensure compliance with this requirement, the licensee must perform predictive modeling of the PFD values within at least 1 km of each base or repeater station antenna prior to commencing such operations and, thereafter, prior to making any site modifications that may increase the PFD levels around the base or repeater station. The modeling must take into consideration terrain and other local conditions and must use good engineering practices for the 900 MHz band.

(c) Power measurement. Measurement of 900 MHz BB base transmitter and repeater ERP must be made using an average power measurement technique. Power measurements for base transmitters and repeaters must be made in accordance with either of the following:

(1) A Commission-approved average power technique (see FCC Laboratory's Knowledge Database); or

(2) For purposes of this section, peak transmit power must be measured over an interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the

channel.

(d) PAR limit. The peak-to-average ratio (PAR) of the transmission must not exceed 13 dB.

(e) Height-power limit. As specified in paragraph (a) of this section, the following tables specify the maximum base station power for antenna heights above average terrain (HAAT) that exceed 304 meters.

Table 1 – Permissible Power and Antenna Heights for Base Stations permitted to Transmit with up to 400 Watts/Megahertz

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts/megahertz)
Above 1372 (4500)	26
Above 1220 (4000) To 1372 (4500)	28
Above 1067 (3500) To 1220 (4000)	30
Above 915 (3000) To 1067 (3500)	40
Above 763 (2500) To 915 (3000)	56
Above 610 (2000) To 763 (2500)	80
Above 458 (1500) To 610 (2000)	140
Above 305 (1000) To 458 (1500)	240
Up to 305 (1000)	400

Table 2 – Permissible Power and Antenna Heights for Base Stations Permitted to Transmit with up to 1000 Watts/Megahertz

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts/megahertz)
Above 1372 (4500)	65
Above 1220 (4000) To 1372 (4500)	70
Above 1067 (3500) To 1220 (4000)	75
Above 915 (3000) To 1067 (3500)	100
Above 763 (2500) To 915 (3000)	140
Above 610 (2000) To 763 (2500)	200
Above 458 (1500) To 610 (2000)	350

Above 305 (1000) To 458 (1500)	600
Up to 305 (1000)	1000

Table 3 – Permissible Power and Antenna Heights for Base Stations Permitted to Transmit with up to 800 Watts/Megahertz

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts/megahertz)
Above 1372 (4500)	52
Above 1220 (4000) To 1372 (4500)	56
Above 1067 (3500) To 1220 (4000)	60
Above 915 (3000) To 1067 (3500)	80
Above 763 (2500) To 915 (3000)	112
Above 610 (2000) To 763 (2500)	160
Above 458 (1500) To 610 (2000)	280
Above 305 (1000) To 458 (1500)	480
Up to 305 (1000)	800

Table 4 – Permissible Power and Antenna Heights for Base Stations Permitted to Transmit with up to 2000 Watts/Megahertz

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP) (watts/megahertz)
Above 1372 (4500)	130
Above 1220 (4000) To 1372 (4500)	140
Above 1067 (3500) To 1220 (4000)	150
Above 915 (3000) To 1067 (3500)	200
Above 763 (2500) To 915 (3000)	280
Above 610 (2000) To 763 (2500)	400
Above 458 (1500) To 610 (2000)	700
Above 305 (1000) To 458 (1500)	1200
Up to 305 (1000)	2000

§ 27.1521 Field strength limit.

The predicted or measured median field strength must not exceed 40 dB μ V/m at any given point along the 900 MHz BB market boundary, unless the affected licensee agrees to a different field strength. This value applies to both the initially offered service areas and to partitioned service areas.

§ 27.1523 [Reserved]

§ 27.1525 Emission limits.

The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) in watts by at least the following amounts:

(a) For 900 MHz BB operations in 897.5-900.5 MHz band by at least $43 + 10 \log (P)$ dB.

(b) For 900 MHz BB operations in the 936.5-939.5 MHz band, by at least $50 + 10 \log (P)$ dB.

(c) Measurement procedure. Compliance with the provisions of paragraphs (a) and (b) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the licensee's band, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(d) The measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

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15. The authority citation for part 90 continues to read as follows:

Authority: 47 U.S.C. 154(i), 161, 303(g), 303(r), 332(c)(7), 1401-1473.

16. Section 90.7 is amended by adding a definition for “900 MHz Broadband (900 MHz BB)” in alphabetical order to read as follows:

§ 90.7 Definitions.

* * * * *

900 MHz Broadband (900 MHz BB). See section 27.1503 of part 27 of this chapter.

* * * * *

17. Section 90.35 is be amended by revising paragraph (c)(71) to read as follows:

§ 90.35 Industrial/Business Pool.

(c) * * *

(71) Subpart S of this part contains rules for assignment of frequencies in the 806-821/851-866 MHz band and for narrowband operations in the 896-901/935-940 MHz band.

* * * * *

18. Section 90.205 is amended by revising paragraph (k) to read as follows:

§ 90.205 Power and antenna height limits.

* * * * *

(k) 806-824 MHz, 851-869 MHz, 896-901 MHz and 935-940 MHz. Power and height limitations for frequencies in the 806-821/851-866 MHz band and for narrowband operations in the 896-901/935-940 MHz band are specified in §90.635 of this part.

* * * * *

19. Section 90.209 is amended by revising paragraph (b)(3) and adding a new footnote 7 to the table in paragraph (b)(5) to read as follows:

§ 90.209 Bandwidth limitations.

* * * * *

(b) * * *

(3) For all other types of emissions, except for emissions associated with 900 MHz BB systems under subpart P of part 27 of this chapter, the maximum authorized bandwidth shall not be more than that normally authorized for voice operations.

* * * * *

(5) * * *

Standard Channel Spacing/Bandwidth

Frequency band (MHz)	Channel spacing (kHz)	Authorized bandwidth (kHz)
* * *	* * *	* * *
896-901/935-940 ⁷	12.5	13.6
* * *	* * *	* * *

* * * * *

⁷ 900 MHz BB systems may operate on channels and with bandwidths pursuant to the rules specified in subpart P of part 27 of this chapter.

* * * * *

20. Section 90.210 is amended by adding a new footnote 7 to the table in the introductory text to read as follows:

§ 90.210 Emission masks.

* * * * *

APPLICABLE EMISSION MASKS

Frequency band (MHz)	Mask for equipment with audio	Mask for equipment without
* * *	* * *	* * *
896-901/935-940 ⁷	I	J
* * *	* * *	* * *

* * * * *

⁷ Equipment used with 900 MHz BB systems operating under subpart P of part 27 of this chapter is subject to the emission limitations in § 27.1525 of this chapter.

* * * * *

21. Section 90.213 is amended by adding a new footnote 15 to the table in paragraph (a) to read as follows:

§ 90.213 Frequency stability.

(a) * * *

Minimum Frequency Stability [Parts per million (ppm)]

Frequency range (MHz)	Fixed and base stations	Mobile stations	
		Over 2 watts output	2 watts or less output
* * *	* * *	* * *	* * *
896-901 ¹⁵	140.1	1.5	1.5
* * *	* * *	* * *	* * *
935-940 ¹⁵	0.1	1.5	1.5
* * *	* * *	* * *	* * *

* * * * *

¹⁵ Equipment used with 900 MHz BB systems operating under subpart P of part 27 of this chapter is exempt from the frequency stability requirements of this section. Instead, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

* * * * *

22. Section 90.601 is amended to read as follows:

§ 90.601 Scope.

This subpart sets out the regulations governing the licensing and operations of all systems operating in the 806-824/851-869 MHz and 896-901/935-940 MHz bands, except for 900 MHz BB systems operating in the 897.5-900.5/936.5-939.5 MHz band under subpart P of part 27 of this chapter. It includes eligibility requirements, and operational and technical standards for stations licensed in these bands. It also supplements the rules regarding application procedures contained in part 1, subpart F of this chapter. The rules in this subpart are to be read in conjunction with the applicable requirements contained elsewhere in this part; however, in case of conflict, the provisions of this subpart shall govern with respect to licensing and operation in these frequency bands.

23. Section 90.613 is amended by revising the introductory text to read as follows:

§ 90.613 Frequencies available.

The following table indicates the channel designations of frequencies available for assignment to eligible applicants under this subpart. Frequencies shall be assigned in pairs, with mobile and control

station transmitting frequencies taken from the 806-824 MHz band with corresponding base station frequencies being 45 MHz higher and taken from the 851-869 MHz band, or with mobile and control station frequencies taken from the 896-901 MHz band with corresponding base station frequencies being 39 MHz higher and taken from the 935-940 MHz band. For operations in the 897.5-900.5 MHz and 936.5-939.5 MHz bands (Channels 121-360), no new applications for narrowband systems under this subpart will be accepted and no applications for modification of existing stations for major changes as defined in §1.929 of this chapter will be accepted pursuant to §27.1517 of this chapter. Only the base station transmitting frequency of each pair is listed in the following table.

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